

## REMARKS/ARGUMENTS

### **35 USC 102(b) Rejection of Claims 1-3, 5, 6-10 and 12-16**

Claims 1-3, 5, 6, 9, 10 and 12-14 were rejected under 35 USC 102(b) as being anticipated by either West German Patent to Rheinmetall. Additionally, claims 7 and 15 were rejected under 35 USC 102(b) as being anticipated by Rheinmetall '463. Further, claims 8 and 16 were rejected under 35 USC 102(b) as being anticipated by Rheinmetall '584.

MPEP §2131 provides:

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).MPEP §2131 provides:

Both Rheinmetall patents fail to describe each and every element of pending claims 1, 3, 5, 6-10 and 12-16. One such element that is not found in either of the Rheinmetall patents is the slots or grooves in the charge case “about which the charge case is adapted to fracture.” By contrast, the Rheinmetall patents disclose a projectile having an inner shell that “is rifled in order to make possible a transfer of the torque between the insert mass and the intermediate piece . . . .” The rifling is adapted to transfer torque but is not adapted to form fracture points.

Accordingly, for at least the above reason, the 102(b) rejection of claims 1, 3, 5, 6-10 and 12-16 is traversed and the claims are allowable.

### **35 USC 103(a) Rejection of Claims 4 and 11**

With regard to claims 4 and 11, Applicant respectfully submits that the 103(a) rejection of the claims as being unpatentable over either Rheinmetall reference in view of Majerus et al., is improper.

In order to establish *prima facie* obviousness, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981 (CCPA 1974). There is no teaching or suggestion in any of the above cited references for a charge case having one or more slots or grooves “about which the charge case is adapted to fracture.” As such, any combination of the above-cited references similarly fails to teach or suggest such claim limitation.

For the above reasons, prima facie obviousness has not been established and the rejection is improper.

**35 USC 103(a) Rejection of Claims 17-20**

With regard to claims 17-20, Applicant respectfully submits that the 103(a) rejection of the claims as being unpatentable over either Pottier et al or Wesson in view of either Rheinmetall reference, is improper.

Once again, there is no teaching or suggestion in any of the above cited references for a charge case having one or more slots or grooves “about which the charge case is adapted to fracture.” As such, any combination of the above-cited references similarly fails to teach or suggest such claim limitation.

For the above reasons, prima facie obviousness has not been established and the rejection is improper.

Attached hereto is a marked up version of the changes made to the claims by the current amendment. The attachment is captioned **“Version with Markings to Show Changes Made.”**

The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No 50-0457.

Applicant respectfully requests reconsideration and that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Tim W. Curington', is written over a horizontal line.

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**In the Claims:**

1. A controlled debris perforating system, comprising:  
  
a pre-fragmented shaped charge having a charge case and an explosive material, the charge case defining at least one slot about which the charge case is adapted to fracture.
3. The controlled debris perforating system of claim [2]1, wherein the at least one slot is axially oriented.
4. The controlled debris perforating system of claim [2]1, wherein the at least one slot is circumferentially oriented.
5. The controlled debris perforating system of claim [2]1, wherein the at least one slot is a U-notched groove.
6. The controlled debris perforating system of claim [2]1, wherein the at least one slot is a V-notched groove.
7. The controlled debris perforating system of claim [2]1, wherein the at least one slot is an external slot.
8. The controlled debris perforating system of claim 1, wherein the at least one slot is an internal slot.
9. A method of controlling the debris during perforating, comprising:  
  
providing a pre-fragmented shaped charge having a charge case defining a plurality of grooves about which the charge case is adapted to fracture.

12. A shaped charge made by a process, comprising:

inserting an explosive into a case;

inserting a liner over the main body of explosive; and

machining a plurality of slots in the case about which the case is adapted to fracture.

17. A method of using one or more pre-fragmented shaped charges in a well, comprising:

providing a perforating string having one or more pre-fragmented shaped charges, the pre-fragmented shaped charges comprising a charge case defining at least one slot about which the charge case is adapted to fracture; and

conveying the perforating string into the well.